Appl. No. 10/604,860
Amdt. dated July 17, 2006
Reply to Office action of April 17, 2006

Amendments to the Claims:

1.   (original) A method adapted to an optical storage device for writing data to an optical
storage medium, the optical storage device having a memory and a pickup, the memory
storing a plurality of sets of write strategy parameters, the method comprising:

5   providing an RLL modulation waveform to the optical storage device, the RLL
modulation waveform including a previous land section, a current pit section, and a next
land section;
choosing a set of write strategy parameters from the plurality of sets of write strategy
parameters stored in the memory according to waveform lengths of the previous land
10   section, the current pit section, and the next land section;
generating a write time waveform according to the chosen set of write strategy parameters;
and
driving the pickup with the write time waveform, so as to write data corresponding to the
RLL modulation waveform to the optical storage medium.

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2.   (original) The method of claim 1 wherein the RLL modulation waveform has a base
period, the method further comprising:
setting the write time waveform to an erase power state before the optical storage device
writes data; and
20   setting the write time waveform to a bias power state and inserting a plurality of pulses
into the write time waveform when the optical storage device writes data, and each pulse
switching the write time waveform from the bias power state to a write power state.

3.   (original) The method of claim 2 wherein the write strategy parameters include a
25   plurality of first parameters and a plurality of second parameters, each of the first
parameter representing a delay from a leading edge of the current pit section to a leading
edge of a first pulse of the write time waveform, each of the second parameter
representing a delay from a trailing edge of the first pulse of the write time waveform to a

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leading edge of the next pulse of the first pulse, the method further comprising:

choosing a first parameter from the plurality of first parameters according to waveform

lengths of the previous land section and/or the current pit section; and

choosing a second parameter from the plurality of second parameters according to

5   waveform lengths of the previous land section and/or the current pit section.

4.   (original) The method of claim 3 wherein a trailing edge of the first pulse of the

write time waveform is in alignment with a position of a leading edge of the current pit

section or in alignment with a position twice the base period posterior to a leading edge of

10   the current pit section.

5.   (original) The method of claim 3 wherein a length of the first pulse of the write time

waveform is equal to a length of twice the base period subtracting the chosen first

parameter.

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6.   (original) The method of claim 2 wherein the write strategy parameters include a

plurality of sets of repeating pulse parameters, each set of repeating pulse parameters

having a plurality of repeating pulse parameters, the repeating pulse parameters

representing pulse lengths of all but the first and the last pulses, a length between leading

20   edges of any two consecutive pulses among all but the first and the last pulses being equal

to twice the length of the base period, the method further comprising:

choosing a set of repeating pulse parameters from the sets of repeating pulse parameters

according to a waveform length of the current pit section.

25   7.   (original) The method of claim 6 wherein the repeating pulse parameters in the same

set of repeating pulse parameters are equal to one another.

8.   (original) The method of claim 6 wherein the repeating pulse parameters in the same

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set of repeating pulse parameters are not necessarily equal to one another.

9.   (currently amended) The method of claim 2 wherein the write strategy parameters
include a plurality of third parameters, a plurality of fourth parameters, and a plurality of
5   fifth parameters, each third parameter representing a delay from a position twice the base
period prior to a trailing edge of the current pit section to a leading edge of a last pulse of
the write time waveform, each fourth parameter representing a ~~length~~ period of the last
pulse of the write time pulse, each fifth parameter representing a delay from a position
one base period prior to the trailing edge of the current pit section to a position the write
10   time waveform ~~switching~~ switches back to the erase power state, the method further
comprising:

       choosing a third parameter from the plurality of third parameters according to waveform
            lengths of the current pit section and the next land section;
15   choosing a fourth parameter from the plurality of fourth parameters according to the
            waveform length of the current pit section; and
       choosing a fifth parameter from the plurality of fifth parameters according to the
            waveform lengths of the current pit section and the next land section.

20   10. (currently amended) The method of claim 9 wherein a delay from a trailing edge of
the last pulse of the write time waveform to a position the write time waveform ~~switching~~
switches back to the erase power state is equal to the chosen fifth parameter plus a ~~length~~
duration of one base period subtracting the chosen third parameter subtracting the chosen
fourth parameter.

25   11. (currently amended) The method of claim 2 wherein a delay from a trailing edge of
any but the first and the last pulses in the write time waveform to a leading edge of the
next pulse is equal to a ~~length~~ duration twice the base period subtracting a length of the
pulse.

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12. (original) The method of claim 2 wherein waveform lengths of the previous land section, the current pit section, and the next land section are all multiples of the base period, ranging from three times the base period to eleven times the base period.

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13. (original) The method of claim 2 wherein levels of the erase power state, the bias power state, and the write power state are predetermined values, and do not vary with different RLL modulation waveforms.

10   14. (original) The method of claim 1 being adapted to a CD burner.

15. (original) The method of claim 14 being capable of writing data onto a CD-RW.

16. (original) The method of claim 1 being adapted to a DVD burner.

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17. (original) The method of claim 16 being capable of writing data onto a DVD-R.

18. (original) The method of claim 16 being capable of writing data onto a DVD-RW.

20   19. (original) The method of claim 1 wherein the RLL modulation waveform is an eight-to-fourteen modulation waveform.

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